



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/560,325	12/09/2005	Jeffrey M. Cogen	62687A	4958
<div>109 7590 12/19/2008</div> <div>The Dow Chemical Company Intellectual Property Section P.O. Box 1967 Midland, MI 48641-1967</div>				
EXAMINER				
KOLLAS, ALEXANDER C				
ART UNIT		PAPER NUMBER		
1796				
MAIL DATE		DELIVERY MODE		
12/19/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/560,325

Applicant(s)

COGEN ET AL.

Examiner

ALEXANDER C. KOLLIAS

Art Unit

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 6, 8, 10, 11 and 14-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6, 8, 10, 11 and 14-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
Paper No(s)/Mail Date ____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____

DETAILED ACTION

Specification

1. The use of the trademarks CLOISITE 20A and ELVAX 265 has been noted in this application. They should be capitalized wherever they appear and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(c) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1-3, 6, 8, 10-11, and 15-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Cogen et al (US 7,438,748)

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Regarding claims 1-3, 6, 8, 10, and 15-16, Cogen et al teaches a flame retardant composition which is applied as a coating over a wire or cable comprising polyolefin polymer such as polyethylene or polypropylene, nano-silicates such as synthetic magadiite, and metal hydroxide flame retardants such as aluminum trihydroxide and magnesium hydroxide (Abstract, Column 2, Lines 11-20, Lines 39-67, Column 29-38, Column 4, Lines 48-56, and Column 5, Lines 13-19). Regarding the nano-silicates, the reference discloses that the cations in the silicate are exchanged with an organic cation such as imidazolium and phosphonium (Column 4, Lines 57-67).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

Art Unit: 1796

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
7. Claims 1-3, 8, 10-11, and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Caimi (US 6,339,189) in view of Garces et al (WO 2001/083370)

Regarding claims 1-3, 8, 10-11, and 14-16 Caimi discloses a polymer composition comprising polyethylene or polypropylene polymers and fire retardants used to coat a cable, meeting the limitations recited in **claims 1-2 and 14-16** (Abstract, Column 8, Lines 50-67). The reference discloses the fire-retardants to be compounds such as magnesium hydroxide and aluminum hydroxide meeting the limitations recited in **claims 8, 10, and 14** (Column 5, Lines 54-67). Additionally, the reference discloses that the metal hydroxides such as aluminum hydroxide which are coated saturated or unsaturated fatty acids such as oleic and palmitic acid, meeting the claim limitations recited in **claim 11** (Column 6, Lines 12-26)

Caimi discloses all the claim limitations as set forth above. However, the reference does not disclose a fire-retardant composition comprising synthetic magadiite.

Garces et al discloses synthetic magadiite platy (Abstract, and Page 2, Lines 7-22). The reference discloses that fillers dispersed in a polymer are known in the art to improve physical properties of the polymer such as tensile and flex modulus. When at least one dimension of the filler such as natural magadiite is less than one micron and the filler has a high aspect ratio then the improvement is especially beneficial (Page 2, Lines 7-22). Natural magadiite provides these benefits, however due to expense synthetic magadiite with a high aspect ratio provides a good alternative to realize improvements in polymer properties (Page 2, Lines 7-22). Additionally, the reference discloses that more than 50 wt % of the synthetic magadiite is in form of individual plates or platy magadiite (Page 3, Lines 15-18 and Page 6, Lines 13-22). The disclosed synthetic magadiite platy meets the limitations recited in **claims 1, 3, and 14**.

Given that Caimi and Graces are drawn to polymeric compositions, and, given that Caimi does not explicitly prohibit other ingredients, in light of the particular advantages provided by the use and control of synthetic magadiite platy as taught by Graces et al, it would therefore have been obvious to one of ordinary skill in the art to include such compounds in the composition disclosed by Caimi with a reasonable expectation of success

8. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Caimi (US 6,339,189) in view of Garces et al (WO 2001/083370) as applied to claims 1-3, 8, 10-11, and 14-16 above and further in view of Nichols et al (US 5,952,093).

Regarding claim 6, modified Caimi discloses all the claim limitations as set forth above. However, the reference does not disclose that the synthetic magadiite is treated with an organic cation.

Nichols et al discloses a polymer composite comprising a polymer matrix such as polyethylene and polypropylene having dispersed intercalated multi-layered inorganic material such as magadiite (Column Lines 1-40 and Column 3, Lines 4-26). In the layered material the alkali metal ions are exchanged with cations such as ammonium or reactive organosilane compounds that cause the multi-lamellar or layered particles to delaminate or swell (Column 5, Lines 23-29). The polymeric composition comprising intercalated lamellar material exhibit improved properties such as enhanced stiffness and dimension stability as compared to composite which contain non-intercalated lamellar materials (Column 2, Lines 29-38).

Given that both Caimi and Nichols are drawn to polymeric compositions containing fillers, and, given that Caimi does not explicitly prohibit other ingredients, in light of the particular advantages provided by the use and control of the magadiite as taught by Nichols et al, it would therefore have been obvious to one of ordinary skill in the art to include such compounds in the composition disclosed by Caimi with a reasonable expectation of success.

9. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Caimi (US 6,339,189) in view of Garces et al (WO 2001/083370) as applied to claims 1-3, 8, 10-11, and 14-16 above and further in view of Wang et al (*Journal of Applied Polymer Science*, see attached pages).

Regarding claim 11, modified Caimi teaches all the claim limitations as set forth above. However, Caimi does not disclose that the metal hydroxide compound is coated with a material such as titanates and silanes.

Wang et al discloses metal hydroxide filler such as magnesium hydroxides and aluminum hydroxides (Page 1428, Col 2). The reference discloses that improvement in impact strength is obtained by treatment of the filler using carboxylic acid, silane, or titanate surface modifiers (Page 1428, Column 2).

Given that both Caimi and Wang et al are drawn to polyolefin compositions containing metal hydroxide fillers, and, given that Caimi does not explicitly prohibit other ingredients, in light of the particular advantages provided by the use and control of metal hydroxide filler covered with titanates and silanes as taught by Wang et al, it would therefore have been obvious to one of ordinary skill in the art to include such compounds in the composition disclosed by Caimi with a reasonable expectation of success.

Double Patenting

10. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

11. Claims 1-3, 6, 8, 10-11, and 15-16, are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-9, and 11-12 of U.S. Patent No. 7,438,748. Although the conflicting claims are not identical, they are not patentably distinct from each other because of the reasons given below.

U.S. '748 claims a fire retardant composition comprising a polyolefin resins such as ethylene and propylene, metal hydroxide fire retardants such as aluminum and magnesium hydroxide as well as nano-silicates such as magadiite. The metal hydroxides can be coated with compounds such as silanes and titanates, while the silicates are treated with organic cations such as imidazolium, phosphonium, and ammonium. Additionally, the claims recite that the composition is coated over a wire or cable.

Two points are worth noting. First, that col. 4, line 55 of U.S. '748 discloses that, among the very limited number (viz. two) preferred embodiments of nanosilicates, magadiite is one of them. Second, while the cited claims of U.S. '748 generically recite magadiite, they do not explicitly refer to any particular species such as synthetic magadiite. However, it is noted that magadiite, in the present context, is generic to a very limited number of species as supported by US '748's disclosure at col. 4, line 56 which states that the silicates such as magadiite can be either naturally occurring or synthetic. Case law holds that those portions of the specification which provide support for the patent claims may also be examined and considered when addressing the issue of whether a claim in an application defines an obvious variation of an invention claimed in the patent. In re Vogel, 422 F.2d 438, 164 USPQ 619,622 (CCPA 1970). Hence, in light of col. 4, lines 55-56, the cited claims of U.S. '748 clearly elucidate synthetic

magadiite in light of which the scope of the instant claims is encompassed by the scope of the claims in U.S. Patent No. 7,438,748.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

12. Claims 1-3, 6, 8, 10-11, and 15-16, are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. US 7,438,748 in view of Garces et al (WO 2001/83370). Specifically, see the discussion set forth in Paragraph 11 above.

13. Claims 1-3, 6, 8, 10-11, and 15-16, are directed to an invention not patentably distinct from claims 1-9, and 11-12 of U.S. Patent No. 7,438,748. Specifically, see the discussion set forth in Paragraph 11 above.

The U.S. Patent and Trademark Office normally will not institute an interference between applications or a patent and an application of common ownership (see MPEP Chapter 2300). Commonly assigned patent, discussed above, would form the basis for a rejection of the noted claims under 35 U.S.C. 103(a) if the commonly assigned case qualifies as prior art under 35 U.S.C. 102(e), (f) or (g) and the conflicting inventions were not commonly owned at the time the invention in this application was made. In order for the examiner to resolve this issue, the assignee can, under 35 U.S.C. 103(c) and 37 CFR 1.78(c), either show that the conflicting inventions were commonly owned at the time the invention in this application was made, or name the prior inventor of the conflicting subject matter.

A showing that the inventions were commonly owned at the time the invention in this application was made will preclude a rejection under 35 U.S.C. 103(a) based upon the commonly assigned case as a reference under 35 U.S.C. 102(f) or (g), or 35 U.S.C. 102(e) for applications pending on or after December 10, 2004.

14. Claims 14-16 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-9, and 11-12 of U.S. Patent No. 7,438,748 in view of Garces et al (WO 2001/83370).

U.S. '748 claims a fire retardant composition comprising a polyolefin resins such as ethylene and propylene, metal hydroxide fire retardants such as aluminum and magnesium hydroxide as well as nano-silicates such as magadiite. Additionally, the claims recite that the composition is coated over a wire or cable

While U.S. '748 does not claim synthetic magadiite, note that Col. 4, Lines 48-56 which states that the silicates can be naturally occurring or synthetic. Case law holds that those portions of the specification which provide support for the patent claims may also be examined and considered when addressing the issue of whether a claim in an application defines an obvious variation of an invention claimed in the patent. In re Vogel, 422 F.2d 438, 164 USPQ 619,622 (CCPA 1970).

While the claims in US '748 and the instant application are open to the inclusion of additional ingredients (cf. the use of "comprising" in the claims), it is noted that claims 1-9, and 11-12 of US '748 lack such additional ingredients as synthetic magadiite containing more than 50 percent by weight of synthetic platy magadiite.

Garces et al discloses synthetic magadiite platy (Abstract, and Page 2, Lines 7-22). The reference discloses that fillers dispersed in a polymer are known in the art to improve physical properties of the polymer such as tensile and flex modulus. Additionally, the reference discloses that more than 50 wt % of the synthetic magadiite is in for form of individual plates or platy magadiite (Page 3, Lines 15-18 and Page 6, Lines 13-22).

Given that both US '748 and Garces et al are drawn to fire-retardant compositions containing, polyolefins, silicates, and metal hydroxides, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the fire retardant composition recited in US '748 to include such synthetic magadiite compounds as disclosed by Garces et al and thereby arrive at the presently claimed invention.

15. Claims 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. US 7,438,748 in view of Garces et al (WO 2001/83370). Specifically, see the discussion set forth in Paragraph 11 above.

16. Claims 14-16 are directed to an invention not patentably distinct from claims 1-9, and 11-12 of U.S. Patent No. 7,438,748. Specifically, see the discussion set forth in Paragraph 14 above.

The U.S. Patent and Trademark Office normally will not institute an interference between applications or a patent and an application of common ownership (see MPEP Chapter 2300). Commonly assigned patent, discussed above, would form the basis for a rejection of the noted claims under 35 U.S.C. 103(a) if the commonly assigned case qualifies as prior art under 35 U.S.C. 102(c), (f) or (g) and the conflicting inventions were not commonly owned at the time the

invention in this application was made. In order for the examiner to resolve this issue, the assignee can, under 35 U.S.C. 103(c) and 37 CFR 1.78(c), either show that the conflicting inventions were commonly owned at the time the invention in this application was made, or name the prior inventor of the conflicting subject matter.

A showing that the inventions were commonly owned at the time the invention in this application was made will preclude a rejection under 35 U.S.C. 103(a) based upon the commonly assigned case as a reference under 35 U.S.C. 102(f) or (g), or 35 U.S.C. 102(e) for applications pending on or after December 10, 2004.

Conclusion

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALEXANDER C. KOLLIAS whose telephone number is (571)-270-3869. The examiner can normally be reached on Monday-Friday, 8:00 AM -5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571)-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. C. K./
Examiner, Art Unit 1796

/Vasu Jagannathan/
Supervisory Patent Examiner, Art Unit 1796